Program to teach cotton farmers how to cut erosion

By DICK WRIGHT
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Cotton farmers who plow their fields the old-fashioned way are wasting time, labor and fuel and are losing soil, LSU research shows.

Field experiments in northeast Louisiana, where thousands of acres of cotton are grown, suggest better ways to farm, researchers say.

Showing farmers new ways to till cotton fields is the purpose of a $100,000 grant to the Louisiana Cooperative Extension Service at LSU. The grant is from the Department of Natural Resources.

Darryl Rester, an extension specialist, said the grant is the first of three for the educational program.

“Our work will include educational programs for farmers — demonstrations, publications and visits to farmers, and training for county agents in each cotton producing parish,” Rester said.

Information will cover weed and disease control, fertilization and equipment to reduce tillage, Rester said.

LSU Agricultural Center researcher Robert Hutchinson experiments with tillage systems on the Macon Ridge in northeast Louisiana’s cotton growing area.

Unfortunately, erosion is a serious problem, especially on soils where we have quite steep slopes, and that does apply to fields on Macon Ridge,” Hutchinson said.

Field researchers like Hutchinson on the Macon Ridge and researchers at St. Joseph who work with alluvial soils have experimented with conservation tillage.

Conservation tillage describes a number of ways of plowing and treating the land to reduce soil erosion and chemical runoff.

Several cotton farmers use some of the newer farming methods already, Hutchinson said.

If the DNR seems an unlikely place to dispense farming grants, the reason becomes clearer when the source and mandated use of the money are explained.

The key to getting the money is energy savings, according to Diane D. Smith, the DNR’s energy division director.

Funds come from settlements the federal government reached with oil companies when they were accused of violating price controls and allocations back in the 1970s. States share in the money and are to use the money for energy-saving projects.

Hutchinson studies several ways to reduce plowing cotton fields and save energy.

The main reason farmers plow is to control weeds and grass, he said.

But less plowing or no plowing at all will not work by itself, he said.

He and other researchers experiment with winter cover crops like crimson clover, vetch, wheat, other clovers and grasses, for example. These crops cover the bare land in winter and add organic matter to the soil. Some of them add nitrogen to the soil.

In some conservation tillage systems, experiments show the use of vetch, a nitrogen-fixing legume, reduced the need for fertilizer, he said.

“We’ve found that winter cover crops like wheat and hairy vetch are very beneficial to yields, especially with conservation tillage systems,” Hutchinson said.

Farms can avoid plowing the land if they use a “burndown” herbicide that kills the weeds and grass, Hutchinson said.

“If we eliminate tillage, we are going to have to replace that tillage with herbicides to manage those weeds,” he said.

“We’ve got to keep in mind that tillage is usually the cheapest means of killing weeds in fields,” he said.

“If we’re going to reduce soil erosion, the best means to do that is to eliminate the tillage,” Hutchinson said. “If we do that, we’re going to have to use herbicides to kill weeds, and most of the time herbicide is more expensive.”

“We can drastically reduce soil erosion,” he said.

Less erosion will improve water quality in a watershed, he said.

“Our goal is to help them do that,” and still make a profit, Hutchinson said.

The extension service is the demonstration and information branch of the LSU Agricultural Center. The experiment station is the research branch.

“Most people are aware of the very positive benefits of organic matter on overall soil productivity,” Hutchinson said.

Hutchinson said research on lower tillage of cotton fields has given encouraging results, though there is more research needed.

“A big part of this new thrust is educational,” he said.

He said researchers are spending a lot of time getting the word out to farmers.

“We’ve seen a tremendous change over the past four or five years in the way we produce cotton in this area,” Hutchinson said. “We’ve got a lot of acres in minimum tillage, some ridge till and stale seed bed production.”

Five years ago the rule was to use conventional, intensive tillage, he said. Hutchinson said he believes the majority of farmers today use some form of conservation tillage.

And, he said, they are using less fuel and fewer tractor. With less tillage, farmers can plant earlier. “Early planting is often very important for crop production in this state,” he said.

Farmers are encouraged by farm program legislation to reduce soil erosion if they want to benefit from government programs, he said.

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Research at LSU shows cotton farmers can produce their crop with less tillage — and tillage expense — than they’ve traditionally used.